

ments, the configuration instructions configure a near field wireless network between the plurality of antenna systems. In some embodiments, an antenna system may cause the communication of the configuration instructions. Additionally or alternatively, a remote CE device may cause the communication of the one or more configuration instructions. The method 410 can be repeated any number of times. For example, the method 410 may be implemented as a loop that continues to determine whether one or more additional antenna systems are to be incorporated into the network of antenna systems 116 and/or whether an antenna system has been removed (e.g., powered down, moved by a user, etc.) from the network.

[0062] As described above, in some embodiments, a CE device may contain more than one antenna system 116. Referring back to FIG. 1B, first CE device 130, second CE device 131, and fifth CE device 134 each include multiple antenna systems 116. Further, both first CE device 130 and second CE device 131 are configured to communicate with multiple different CE devices (e.g., first CE device 130 communicates with second CE device 131 and the fourth CE device 133, while second CE device 131 communicates with first CE device 130 and third CE device 132). Accordingly, some embodiments are configured to allow one CE device (e.g., the first CE device) to communicate with another CE device (e.g., third CE device 132) when the first CE device is not in direct communication with and/or not within wireless range of the third CE device by using the two antenna systems 116 of second CE device 131 as pass-through antenna systems that effectively relay information between the first and third CE devices. It is noted that second CE device 131 may utilize some or all of the information received and retransmitted. Accordingly, when operating as pass-through antennas, the antenna systems are not restricted from utilizing some or all of the information and/or providing that information to the CE device with which the antenna system cooperates. Operating antenna systems as pass-through systems allows information to be daisy chain communicated through multiple antenna systems. Similarly, wireless power transfer may be daisy chained through antenna systems configured as pass-through antenna systems. For example, power may be transferred from first CE device 130, through second CE device 131, to third CE device 132.

[0063] As such, some embodiments in detecting the plurality of near field wireless antenna systems 116 detect that two or more antenna systems are within a single CE device. For example, a CE device (e.g., the second CE device) may transmit coupling parameters specifying that the CE device includes more than one antenna system and/or that the antenna systems of the CE device can operate as pass-through antenna systems. With this information, the wireless coupling configurations can define two antenna systems of the CE device as pass-through antenna systems. In this configuration, a first antenna system of the CE device can be configured to pass through at least some communications wirelessly received through the first antenna system to a second antenna system of the same CE device, and the second antenna system can be configured to wirelessly retransmit some of the wireless communications received from the first antenna system to another of the plurality of antenna systems cooperated with a separate CE device. Similarly, the second antenna system may additionally or alternatively wirelessly receive communications and forward

those to the first antenna system to allow the first antenna system to transmit that information to an antenna system of a separate CE device allowing a pass-through of communications.

[0064] In some embodiments, one antenna system 116 of the plurality of antenna systems determines some or all of the coupling configurations and/or performs the method 410 to establish and/or maintain the near field network. For example, a first antenna system may operate as a group controller or network control antenna system that in some embodiments dictates the cooperation and/or coupling between two or more antenna systems. The determination of which of the antenna systems operates as the group controller can depend on one or more factors, such as but not limited to whether an antenna system (and/or the CE device in which that antenna system is positioned) can operate as a group controller and/or has the functionality to provide group control, the computational capabilities of the antenna system and/or the CE device in which the antenna system is positioned, a priority level (e.g., defined by a manufacturer, defined by an industry standard, user defined, etc.), whether the CE device associated with the antenna system includes a user interface and/or a type of user interface, when an antenna system joined the network, and/or other such factors. Additionally or alternatively, a user can designate and/or select one of the antenna systems to be the network group controller.

[0065] For example, in a linear configuration, an antenna system or a CE device at one of the ends can be designated as the group controller. The selected antenna system or CE device could be determined, for example, by which end has more inputs. As one specific example, a set of rules may be applied to select a Television (TV) being the group controller as the TV is typically on an end of a linear chain and often includes the most inputs. Additionally or alternatively, in some implementations, antenna systems and/or CE devices that may be part of the near field wireless network could negotiate amongst themselves to select which of the antenna systems and/or CE devices is to be the group controller. In some implementations, each antenna system, each CE device, and/or at least one antenna system of each CE device of the potential network includes software to allow the antenna system and/or CE device to act as a group controller. In such a situation, it may not be important which device acts as the group controller, and the selection can be based on one or more parameters, such as those described above or further described below (e.g., which device has the best user interface).

[0066] Further, rules may specify in some implementations to prefer or prioritize certain CE devices and/or antenna systems over others. For example, a rule may specify that when a first antenna system and/or first CE device supports a later version of a communication protocol than another antenna system and/or CE device, then the first antenna system and/or CE device supporting the latest version is chosen over the other device when selecting a group controller (can be also referred to as a group owner). Additionally or alternatively, there may be rules such that the CE device with the most inputs (and/or outputs) and/or with the most antenna systems would be chosen as the group controller (e.g., in a network configuration where all content and/or information is run through a home theater receiver, the home theater receiver may be chosen as the group controller).